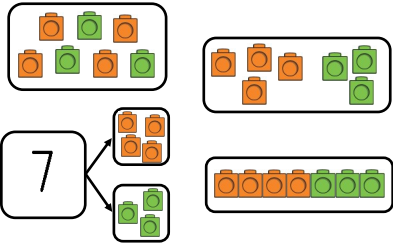
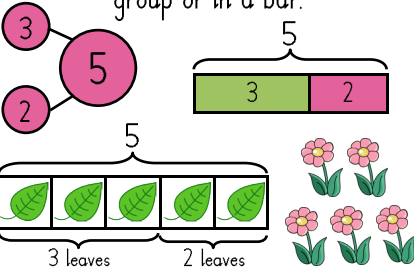
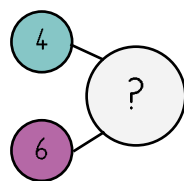
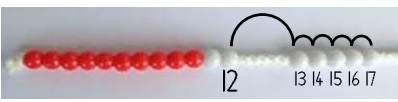
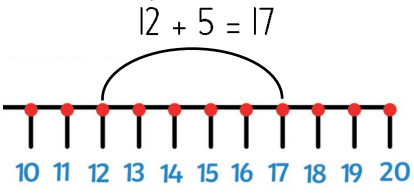
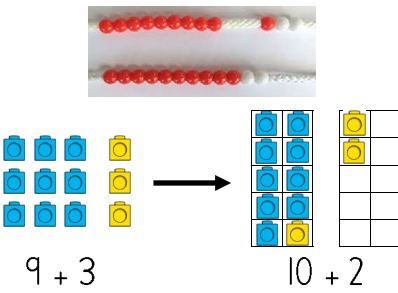
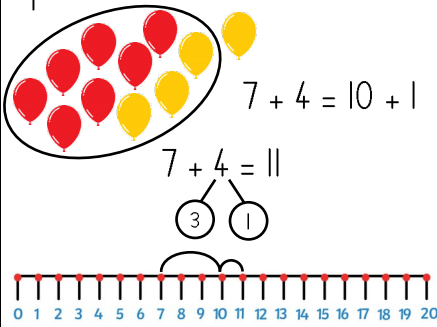
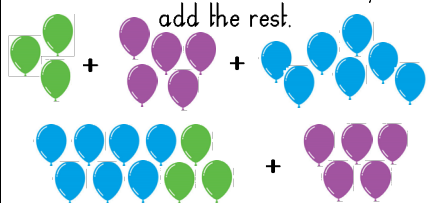
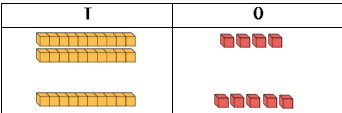
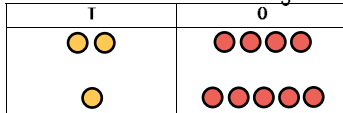


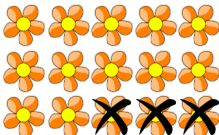
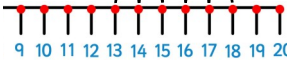
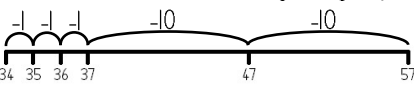
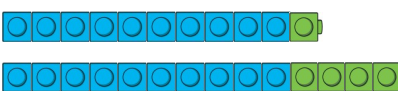
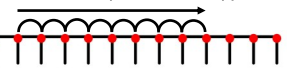
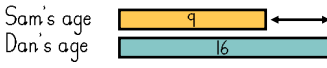
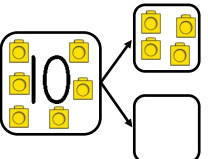
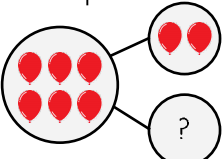
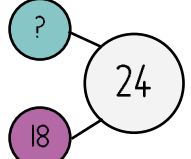
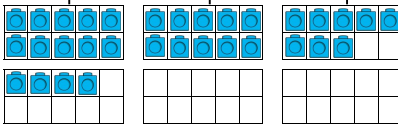
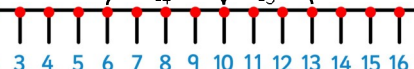
Key Stage 1 Maths

Addition

Concrete	Pictorial	Abstract
Combining two parts to make a whole		
Use cubes to add two values as a group or in a bar. 	Use pictures to add two numbers as a group or in a bar. 	Use the part-whole diagram to move into the abstract. $6 + 4 = 10$ $10 = 6 + 4$ 
Starting at the bigger value and counting on		
Start with the larger number on the bead string, then count on the smaller number, one by one, to find the total. 	Start at the larger number on the number line, then count on in ones, or one jump, to find the total. $12 + 5 = 17$ 	Place the larger number in your head, then count on the smaller number to find the total. $5 + 12 = 17$
Regrouping to make 10		
Start with the larger number and use some of the smaller number to make 10, then add what remains. 	Use pictures or a number line to regroup or position the smaller number to make 10. $7 + 4 = 10 + 1$ $7 + 4 = 11$ 	If I am at eight, how many more do I need to make 10? How many more do I have to add on now? $8 + 7 = 15$
Adding 3 single digits		
$4 + 7 + 6 = 17$ The 4 and the 6 are number bonds that make 10. Now add the 7. 	Recombine the values to make 10, then add the rest. 	Combine the two numbers to make 10, then add the rest. $2 + 6 + 8 = 10 + 6$ $= 16$
Column method - no regrouping		
Add the ones, then the tens. 	Draw the tens and ones being added. 	Align the digits, adding first the ones, then the tens. $\begin{array}{r} 24 \\ + 15 \\ \hline \end{array}$

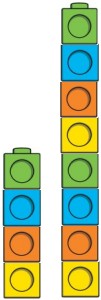
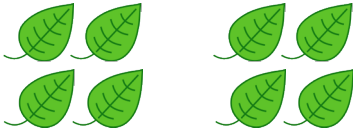
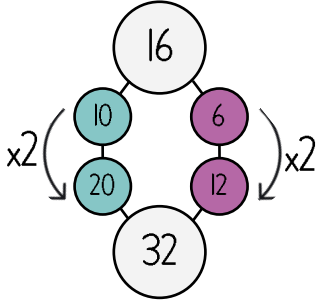
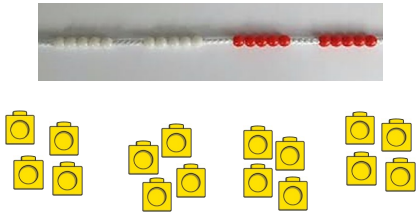
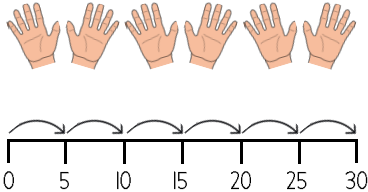
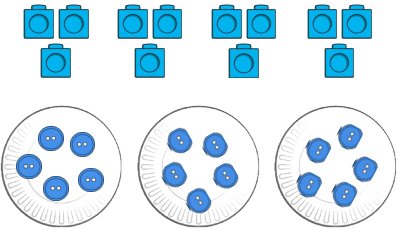
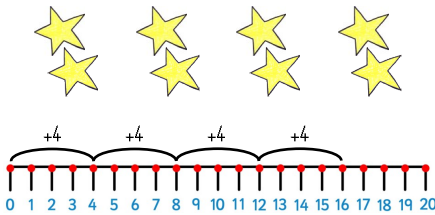
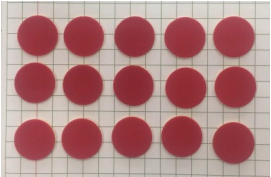
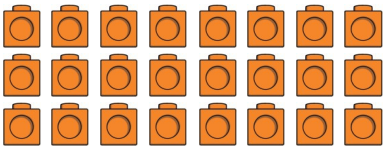
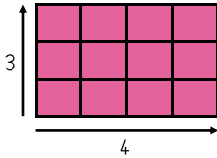
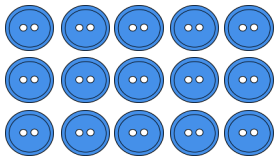
Key Stage 1 Maths

Subtraction

Concrete	Pictorial	Abstract
Taking away ones		
Use physical objects (counters, cubes, etc.) to show how objects can be subtracted.  $6 - 2 = 4$	Cross out drawn objects to show how many has been subtracted.  $15 - 3 = 12$	$18 - 3 = 15$ $15 = 18 - 3$
Counting back		
Remove the smaller value from the larger value, one by one, counting backwards.   $13 - 4 = 9$	Count back on a number line.  Start at the larger value and count back the smaller number, noting the jumps. 	Put 23 in your head, then count back 5. What number did you arrive at? Use your fingers to help you, if you need to. $23 - 5 = 18$
Find the difference		
Compare amounts of objects to find the difference. 	Count on to find the difference.  Use comparison bar models to find the difference. 	Count on or back mentally to find the difference. Nina has 23 sandwiches and Helen has 15 sandwiches. Find the difference between the number of sandwiches.
Part-whole model		
Use the part-whole model to explain how subtraction is the inverse of addition.  $10 - 4 = 6$	Use a pictorial representation of objects to show the part-whole model. 	Use numerals within the part-whole model. 
Making 10		
Make 14 on a tens frame. Subtract by bridging through 10: take away 4 first, to get to 10; then take away 2 more so that you have subtracted 6 in total. Step 1 Step 2 Step 3  $14 - 6 = 8$	Start at 13, then take 3 away first to reach 10. Now subtract the remaining 4 so that 7 has been taken away altogether. $13 - 7 = 6$  	Attempt subtraction problems mentally. $15 - 8 =$ How many do we take off to get to 10? How many do we have left to subtract? What have we reached?

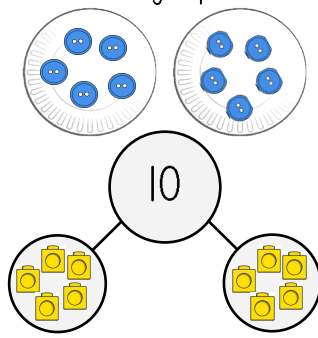
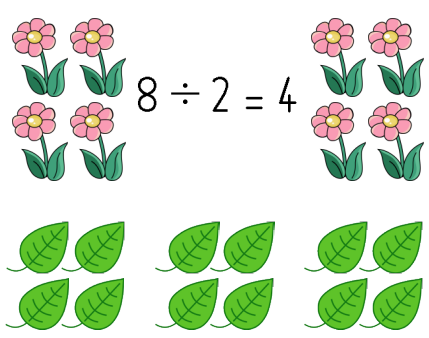
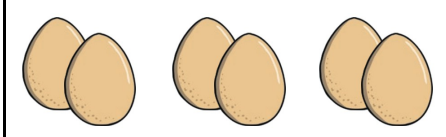
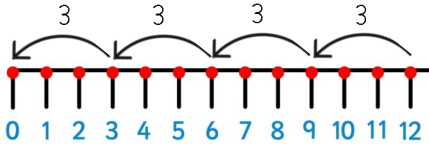
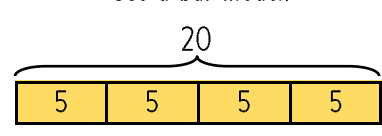
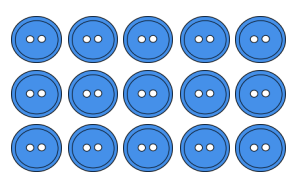
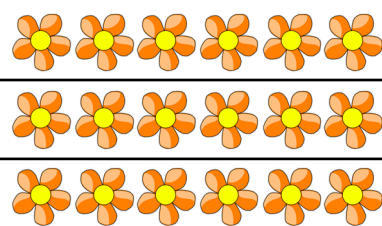
Key Stage 1 Maths

Multiplication

Concrete	Pictorial	Abstract
Doubling		
Use practical activities to practise doubling numbers. $4 \times 2 = 8$ 	Draw pictures to demonstrate how to double a number. Double 4 is 8 	Partition a number, then double each part, before recombining the parts. 
Counting in multiples		
Count in multiples using physical resources in equal groups. 	Use a number line or pictures to continue support in counting in multiples. 	Count in multiples of a number aloud. 3, 6, 9, 12, 15, 18... Write sequences with multiples of numbers. 4, 8, 12, 16, 20, 24, 28, 32, 36, 40...
Repeated addition		
Use different objects to add equal groups. 	Draw images or number lines to demonstrate repeated addition. 	Write addition sentences to describe objects and pictures.  $2 + 2 + 2 + 2 + 2 = 10$
Arrays to show commutative multiplication		
Create arrays using counters or cubes to represent multiplication sentences.  	Draw arrays in different rotations to find commutative multiplication sentences. $2 \times 3 = 6$ $3 \times 2 = 6$ Link arrays to the area of rectangles.  $3 \times 4 = 12$	Use an array to generate multiplication number sentences and reinforce repeated addition.  $5 + 5 + 5 = 15$ $3 + 3 + 3 + 3 + 3 = 15$ $3 \times 5 = 15$ $5 \times 3 = 15$

Key Stage 1 Maths

Division

Concrete	Pictorial	Abstract
Division through sharing		
Share different objects equally between groups, counting how many end up in each group. 10 shared equally between 2 gives each group 5. 	Use pictures or shapes to share quantities.  $8 \div 2 = 4$ $12 \div 3 = 4$	Record the sharing of quantities as a number sentence. Share 9 cakes between 3 people. $9 \div 3 = 3$
Division through grouping		
Divide quantities into equal groups of the number you are dividing by, using different objects. $12 \div 3 = 4$  $6 \div 2 = 3$ 	Record jumps in groups on a number line. The number of jumps forms your answer.  Use a bar model. 	Represent the grouping of quantities as a number sentence. Divide 27 into groups of 3. $27 \div 3 = 9$
Division with arrays	Draw an array and use lines to split the array into groups to generate both the multiplication and division number sentence.	Division with arrays
Link division to multiplication by creating arrays and considering all of the number sentences that could be generated.  $15 \div 3 = 5$ $15 \div 5 = 3$ $5 \times 3 = 15$ $3 \times 5 = 15$	 $18 \div 6 = 3$ $6 \times 3 = 18$	Find the inverse of multiplication and division facts by creating four linking number sentences. $32 \div 4 = 8$ $32 \div 8 = 4$ $8 \times 4 = 32$ $4 \times 8 = 32$